

- 713, Electrical Computers and Digital Processing Systems: Support, subclasses 200 through 202 for security in digital data processing systems.
- 714, Error Detection/Correction and Fault Detection/Recovery, subclasses 15 through 22 for process and data state recovery, per se, in particular subclass 20 for use of plural data sets (i.e., logs) containing set interrelation data.
- 715, Data Processing: Presentation Processing of Document, subclass 511 for document version management under document processing.

124 **Testing or debugging:**

This subclass is indented under subclass 100. Subject matter including means or steps for testing program code for the purpose of determining correctness and performance of software or for locating and correcting errors under software development.

- (1) Note. This subclass is for programming tools which help programmers debug executable code in the development phase of programming. Recovery from a run-time fault or exception in an already functioning and tested program is classified elsewhere. See the SEE OR SEARCH CLASS notes below.
- (2) Note. Subject matter under this subclass includes symbolic debugging and debugging of object-oriented programs. Object-oriented data structures and databases, and communication between objects using object-oriented messaging during execution of object-oriented programs are classified elsewhere. See the SEE OR SEARCH CLASS notes below.
- (3) Note. Subject matter under this subclass may include reverse analysis, de-assembling, or decompilation of machine language program for aiding a programmer in debugging the program. Reverse compilation/reverse assembly, per se, is classified elsewhere within this class. See the SEE OR SEARCH CLASS notes below.

SEE OR SEARCH CLASS:

- 380, Cryptography, subclass 2 for equipment test or malfunction indication, subclasses 200 through 242 for video cryptography, and subclasses 255 through 276 for communication systems using cryptography.
- 702, Data Processing: Measuring, Calibrating, or Testing, appropriate subclasses for the application of computer data processing in measuring, calibrating, or testing, particularly subclass 119 for program loading or creating in a testing system, subclass 123 for program setup in a testing system, and subclasses 176 through 178 for a time duration or rate measurement system.
- 703, Data Processing: Structural Design, Modeling, Simulation, and Emulation, subclasses 23 through 28 for emulation, per se.
- 712, Electrical Computers and Digital Processing Systems: Processing Architectures and Instruction Processing (e.g., Processors), subclass 227 for specialized instruction processing in support of testing, debugging, and emulation.
- 713, Electrical Computers and Digital Processing Systems: Support, subclasses 150 through 181 for multiple-computer communication using cryptography, subclasses 182 through 186 for system access control based on user identification by cryptography, particularly subclass 187 for computer program modification detection by cryptography, subclass 188 for computer virus detection by cryptography, and subclasses 189 through 194 for data processing protection using cryptography.
- 714, Error Detection/Correction and Fault Detection/Recovery, for error detection/correction not related to software program development, particularly subclasses 799 through 824 directed to fault locating; subclasses 15 through 24 for state recovery such as re-executing instructions in a computer process; subclass 34 for generating a halt, clock, or interrupt signal in the detection of a fault; subclass 35 for substituting or adding an instruction in the detection of a fault; and subclasses 37 through 39 for analyzing outputs, state, or design in the detection of a fault including computer software faults